UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,817	11/22/2002	Anthony Chao	36287.03900	9643

21967   7590   11/06/2006

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EXAMINER
PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	10/065,817	CHAO ET AL.
	Examiner	Art Unit	
	Prieto B.	2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 August 2006</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-14</u> is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-14</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>22 November 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☐ All   b)☐ Some * c)☐ None of:
         1.☐ Certified copies of the priority documents have been received.
         2.☐ Certified copies of the priority documents have been received in Application No. _____.
         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _<u>08/06 (7 sheets)</u>_
4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____ .

DETAILED ACTION

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/21/06 has been entered.

2.   Claims 1 and 12-14 have been amended, added and/or canceled, thus claims 1-14 remain pending.

Claim Rejection under 103

3.   The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiyagaranjan et. al. (US 2004/0054854) (Thiyagaranjan hereafter) in view of Boyle et. al. (US 6,138,158)

Regarding claim 1, Thiyagaranjan

        creating a cache storing data accessed from a database [claim 9];

        performing a refresh of the data cache from the database [0043];

        identifying change in the cache [0054];

        responsive to the change in the cache, sending a message to a "client" computer [0054 or 0047-49]; and

        responsive to the message, automatically accessing the changed data [0054-0055] including requesting the changed data [047, 0115, 042]; and

updating the information on the client computer with the changed data [0054-0055]; although Thiyagaranjan teaches accessing changed data for updating the information on the client computer with the changed data, he does not explicitly state where taught accessing the changed data responsive to the message is particularly, in the form of a request.

Boyle teaches a method for updating information on user client devices subscribing to the updated information through the network, specifically, wherein in response to a notification message to the client, the client fetches the updated data by requesting to fetch the updates indicated in the notification (col 17, lines 8-13).

Boyle teaches sending a notification to a proxy server that forwards the notification to the users, which upon receiving the notification, the users can fetch the updates, when needed (see abstract); when a notification is sent out from one of the server devices that holds an updated information subscribed by one of the client devices, the notification is processed and sent to the targeted client device; upon receiving the corresponding message, the targeted client device is caused to send a request to establish a communication session so as to fetch the updated information from the server that holds the updated information; when the communication session is established and the updated information is fetched into the link device that further forwards the fetched information to the client device (col. 2, lines 36-52); more particularly, referring to FIG. 8F, after the mobile device establishes the communication session with the link device at 845, the client device proceeds to request to fetch the updates indicated in the received PUSH PDU at 851. The updated information forwarded from the link device is received at 861. (col 17, lines 8-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the means of Boyle for notifying client device users of updates enabling the client device because generated request for fetching updates utilizes the updates identified in the notification and the address from the server device hosting said updated, thus making the request independent of the intermediate computers handling the notification particularly when transmission is over the Internet.

Regarding claims 2-3, responsive to a request from the client to the server, sending a set of data from the data cache to the client over an established connection responsive to a request from the

client to the server [Thiyagaranjan: 0011], and wherein the connection uses HTTP protocol [Thiyagaranjan: 046].

Regarding claims 4-5 and 7, establishing a connection between the client and a server; and sending the message to the client from the server using the connection, wherein the connection uses a protocol [Thiyagaranjan: 0046] and wherein the message has at least two states, one state indicating no change in the data cache; and the other state indicating change in the data cache [Thiyagaranjan: 0015]

Regarding claim 6, establishing a first connection between the client and a server [Thiyagaranjan; Fig. 2-3];

establishing a second connection between the client and the server [Thiyagaranjan: Fig. 2-3, 0015];

responsive to a request from the client to the server, sending a set of data from the data cache to the client over the first connection [Thiyagaranjan 0011];

sending the message to the client from the server using the second connection [Thiyagaranjan: Fig. 2, 0013, 0015]; and

responsive to the message, automatically sending the request for the changed data from the client to the server using the first connection [Thiyagaranjan: 042, 047, 015]

Regarding claim 8, wherein requesting the changed date is responsive to the message state indicating change in the data cache [Thiyagaranjan: 0054]

Regarding claim 9, wherein the message is periodic [Thiyagaranjan; Fig. 5a-b].

Regarding claim 10, wherein the message is aperiodic [Thiyagaranjan: 047].

Regarding claim 11, creating a data cache in a RAM cache of an application server as a subset of a larger database [Thiyagaranjan: claim 9];

establishing an data connection between the client and the application server over a network [Thiyagaranjan: Fig. 2-3, 006];

establishing a connection between the client and the application server [Thiyagaranjan: Fig. 2-3;

responsive to a resource request from the client, sending an file via the connection to the client, the file reflecting data cached at the time of said request, caching requested resources for subsequent requests [0011], requested resources including web resources [0050]; and after cached, performing a periodic refresh of the data cache from the larger database [0054].

Regarding claim 12, this computer executable software code transmitted as an information signal, the code for updating information on a client computer, the code corresponding to the functions associated to the method discussed on claim 1, same rationale of rejection is applicable.

Regarding claim 13, this computer readable medium having computer executable code stored thereon, the code for updating information on a client computer, the code corresponding to the functions associated with the method discussed on claim 1, same rationale of rejection is applicable

Regarding claim 14, this programmed computer claim for updating information on a client computer, having the corresponding memory, processor and the code for performing the method discussed on claim 1, same rationale of rejection is applicable.

Response to Arguments

5.   Regarding claims 1-14 rejected as being anticipated by Thiyagaranjan, it is argued (p. 8 of remarks) that the applied prior art does not teach that the data cache be updated and that the information on the client computer be updated.

Because according to applicant's interpretation (p. 9-10 of remarks) of the applied reference: Thiyagaranjan does not disclose that the users are sent a message "responsive to the change in the data cache," that the users "automatically request the changed data" responsive to the message, or "updating the information on the client computer with the changed data."

In response to the above-mentioned argument, since it is respectfully noted that the "users" are not claimed. Applicant's attention is directed to the reference's Figures 5A and 5B, illustrates 50 and 51 of an exemplary computer server system that uses a hybrid method for updating a cache 229 thereon using notification & period updates intercommunication mechanism taught by the reference.

Particularly attention is made to Figure 5A illustrating a computer system 221 is labeled *"remote server server/client"* comprising said cache and where Figure 5B illustrates a computer system 221 is labeled *"remote server or client"* also comprising said cache. The reference discloses: The present invention relates to the field of data processing. More specifically, embodiments of the present invention relate to methods for updating a cache memory in a *client server system* [see par 0003]. Figure 4 illustrates a block diagram of exemplary computer system 112 is shown. It is appreciated that computer system 112 described herein illustrates an exemplary configuration, however other computer systems with differing configurations can also be used instead of computer system 112 within the scope of the present invention, e.g. *computer system 112 could be a server system, a personal computer or an embedded computer system such as a mobile telephone or pager system* [see 0037].

Thiyagaranjan does disclose "responsive to the change in the data cache," "automatically request the changed data" responsive to the message, and "updating the information on the client computer with the changed data."

Particularly, a remote server 221 uses a dedicated data link for receiving notification of data changes from data store 205; notification relies on the data store 205 to notify remote server 221 that data in the cache is inconsistent with the data stored on the data store. When changes are made to a piece of data that resides on the cache on the remote server 221, the data store 205 notifies the remote server 221 that data has changed. Accordingly, after receiving notification, the remote server 221 accesses the data store 205 for the data updates [see 0015]

For example, if notification is used, the data store 205 will notify remote server 221 that data has been changed. As a result, the remote server 221 will access the data store 205 for an update [see 0042]. Once the data store has identified the data requested by a remote server, the data store waits for changes to be made to data that has been requested by a particular server. The next step 902 is to identify if there have been changes to data. If a change has been mage, the data store sends notification to the remote server that data has changed 903. Once notified, the remote server can access the data store and update the cache memory [0054-0055].

Boyle teaches a method for updating information to device users subscribing to the updated information through the network, by sending a notification to a proxy server that forwards the notification to the users, which upon receiving the notification, the users can fetch the updates, when needed (abstract); when a notification is sent out from one of the server devices that holds an updated information subscribed by one of the client devices, the notification is processed and sent to the targeted client device; upon receiving the corresponding message, the targeted client device is caused to send a request to establish a communication session so as to fetch the updated information from the server that holds the updated information; when the communication session is established and the updated information is fetched into the link device that further forwards the fetched information to the client device (col. 2, lines 36-52); more particularly, referring to FIG. 8F, after the mobile device establishes the communication session with the link device at 845, the client device proceeds to request to fetch the updates indicated in the received PUSH PDU at 851. The updated information forwarded from the link device is received at 861. (col 17, lines 8-13).

6.   Applicant's arguments filed with the above communication has been fully considered but not found persuasive.

Citation of Pertinent Art:

7.   The following prior art made of record and considered pertinent to applicant's disclosure. Copies of Non-Patent Literature documents cited will be provided as set forth in MPEP§ 707.05(a):

(US 5,471,629)

Risch discloses a method of monitoring changes in an object-oriented database with tuned monitors, including notifying a client only of changes that exceed a predetermined significance level, that is determining whether the monitored attribute may have been affected by the update transaction and, if so, determining whether the value of the attribute has changed by an amount which exceeds the minimum change value.

(US 20030218633)

Mikhail, et. al. discloses a Browser notification has been described using Sybase notification server. Changes to the cache generate a change message in particular, wherein a heartbeat type message is used to broadcast a change in data stored in the cache, and upon receipt of the heartbeat type message indicating a change, client browser 106 requests an update of the data that is stored in the cache, where the client browser 106 will typically request the data update from the cache rather than from database 108 of Sybase server 102.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (571) 272-3902. The Examiner can normally be reached on Monday-Thursday from 5:30 to 2:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Andrew T. Caldwell can be reached at (571) 272-3868. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, status information for published application may be obtained from either Private or Public PAIR, for unpublished application Private PAIR only (see http://pair-direct.uspto.gov or the Electronic Business Center at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
          Commissioner of Patents and Trademarks
          P.O. Box 1450
          Alexandria, VA 22313-1450

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          Customer Service Window located at the Randolph Bldg.
          401 Dulany St.
          Alexandria, VA 22314

Faxed to the Central Fax Office:
          (571) 273-8300 (New Central Fax No.)

     Or Telephone:

          (571) 272-2100 for TC 2100 Customer Service Office.

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TC 2100
November 1, 2006

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